REMARKS

Claims 1, 3, 7, 8 through 18, and 20 remain pending in this case. Claims 1, 8, and 15 have each been currently amended. Claims 2, 4 through 6, 19, and 21 have been canceled.

"Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Kong et al. (US 6,782,106, hereinafter "Kong")." The claims have been amended, as will be discussed in greater detail below, to distinguish from the teachings of Kong.

Claim 1, as amended, is claiming the following:

A selective noise canceling headset, comprising:

at least one earpiece for reproducing a selected audio signal;

a microphone for monitoring an external audio signal in a vicinity of said headset; and

a selective noise suppression circuit for analyzing said external audio signal, including:

an audio classifier coupled to said microphone for receiving said external audio signal, said audio classifier being operative through use of audio content analysis algorithms, to analyze the audio content of said external audio signal to determine if at a given time a segment is a desired external signal, and if so to output a "use signal," but if not to output a "suppress signal," said desired external signal segment(s) including any one or combination of an audio alarm signal, a dog barking, and speech directed to a user of said earpiece; and

> a noise canceling circuit for receiving both a selected audio signal and said external audio signal, and being responsive to the presence of said use signal to pass said external audio signal along with said selected audio signal for reproduction, and responsive to the presence of said suppress signal to prevent passage of said external signal, said noise canceling circuit also being selectively operable for canceling said selected audio signal during the presence of said use signal.

Kong uses only volume or amplitude detection for determining whether ambient sounds picked up by a microphone 20 are to be permitted to be mixed the sound generated by sound producing device for reproduction by headphones. The ambient sound will only be permitted to pass through if its volume is greater than a predetermined level. Contrary to this, as claimed in Claim 1 (currently amended), Applicants use an audio classifier ". . . being operative through use of audio content analysis algorithms, to analyze the audio content of said external audio signal to determine if at a given time a segment is a desired external signal . . . said desired external signal segment(s) including any one or combination of an audio alarm signal, a dog barking, and speech directed to a user of said earpiece; . . ." Claim 1 is also claiming in combination with the "audio classifier" use of "a noise canceling circuit . ." that is responsive to the "audio classifier" for either passing or suppressing the external audio signal, with the "noise canceling circuit" also ". . . being selectively operable for canceling said selected said selected audio signal during the presence of said use signal." Kong does not teach or suggest such use of an "audio classifier" in combination with "a noise canceling circuit," as claimed in Claim 1 (currently amended), or the total

combination of elements of this claim. Accordingly, Claim 1 (currently amended) is patentable over Kong.

Dependent Claims 3, and 7 are each dependent from Claim 1 (currently amended). Accordingly, these claims are patentable for at least the same reasons as Claim 1 (currently amended).

Note that the audio classifier, and noise canceling circuit, as claimed, are taught in the specification on page 5, lines 1 through 33, page 6 lines 1 through 22, and page 7, lines 27 through 30. On page 6, on lines 19 through 22,a paper by Silvia Pfeiffer et al., entitled "Automatic Audio Content Analysis," Proc. ACM Multimedia 96, 21-30, Boston, MA (Nov. 1996), has its teachings incorporated by reference relative to the audio content analysis performed by the "audio classifier". Also on page 7,.it is indicated that the audio classifier can alternatively be provided using the techniques described in T. Zhang and C-C. Jay Kuo, "Heuristic Approach for Generic Audio Data Segmentation and Annotation," Proc. ACM Multimedia 99 (ACM Special Interest Groups), November 5, 1999, the teachings of which are incorporated by reference for showing operation of the audio classifier as an "audio classifier/segmenter 510" (see page 7, lines 22 through 31). Kong does not teach use of such "audio classifiers."

Claim 8, as currently amended, is claiming the following:

A selective noise canceling device, comprising:

a microphone for monitoring an external audio signal; and

a selective noise suppression circuit for analyzing said external audio signal, including:

an audio classifier coupled to said microphone for receiving said external audio signal, said audio classifier being operative through use of content-based audio segmentation analysis techniques, to analyze said external audio signal to determine if at a given time a segment is a desired external signal, and if so to output a "use signal," but if not to output a "suppress signal"; and

a noise canceling circuit for receiving said external audio signal, and being responsive to the presence of said use signal to pass said external audio signal, for reproduction, and responsive to the presence of said suppress signal to prevent passage of said external signal for reproduction.

Kong does not anticipate or make obvious the combination of elements of Claim 8, as currently amended. As previously indicated, Kong does not teach the use of an audio classifier in combination with a noise canceling circuit as now claimed by Applicants. Accordingly, Claim 8, as currently amended, is patentable over Kong.

Claims 10 through 14 are each dependent from Claim 8. Accordingly, these dependent claims are patentable for at least the same reasons as Claim 8 (currently amended).

Claim 15, as currently amended, is claiming the following:

A selective noise canceling method, comprising:

monitoring an external audio signal;

analyzing said external audio signal through use of content-based audio segmentation, to identify portions thereof that may be of interest to a user;

amplifying the identified portions of said external audio signal that are of interest;

suppressing the portions of said external audio signal not identified; and

adding said amplified portions of said external audio signal to a selected audio signal for reproduction thereof.

As previously mentioned, Kong does not teach the use of content-based audio segmentation as taught in the Pfeiffer et al., and T. Zhang et al. papers incorporated by reference into the specification and teachings of Applicants, as previously mentioned. Accordingly, for this reason alone, Claim 15 (currently amended) is patentable over Kong.

Claims 16 through 18, and 20 are each dependent from Claim 15 (currently amended). Accordingly, these claims are patentable for at least the same reasons as Claim 15 (currently amended).

Applicants have shown that the claims as now presented are patentable over the cited references. Accordingly, it is respectfully requested that the claims be allowed and the case passed on to issue.

Respectfully submitted,

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